

ABSTRACT

**TILTED MEDIA FOR HARD DISK DRIVES
AND MAGNETIC DATA STORAGE DEVICES**

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A digital storage medium for use in data storage devices has two magnetic layers where the respective easy axes of the magnetic moments in the two layers are perpendicular to each other. Exchange coupling of the magnetic moments in the magnetic layers produces a resultant magnetic moment that is tilted out of the plane of the digital storage medium. The 10 resultant magnetic moment of the medium allows the use of either a ring head, a single pole head, or a head that generates a field tilted at an angle for write operations.